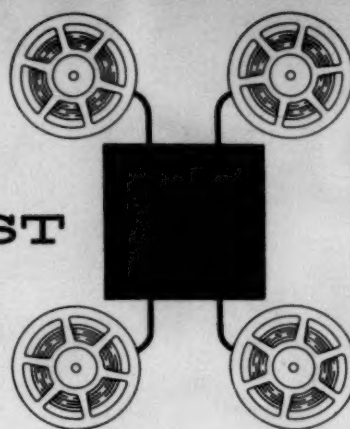


DATA PROCESSING DIGEST

1140 South Robertson Blvd., Los Angeles 35, California

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VOLUME 6 NUMBER 8

AUGUST, 1960

General Information

MACHINE DATA PROCESSING SYSTEMS FOR THE TRIAL LAWYER

Roy N. Freed, Ballard, Spahr, Andrews & Ingersoll, Philadelphia, Pa.
THE PRACTICAL LAWYER, April 1960; pages 73-96

Legal research by machine is being studied by the Electronic Data Retrieval Committee of the American Bar Association. The primary handicap is the profession's inability to establish a universally applicable series of definitions of legal terms, concepts, and topic classifications. However, machine retrieval is feasible in major anti-trust, patent, tax, minority stockholder, rate, license, and similar litigation before the courts and administrative agencies, because the volume of information involved is frequently substantial enough to justify the expense. Furthermore, any system devised would be used by a relatively small group of persons who could readily agree on definitions. The use of a data processing system would entail "no new steps in the preparation of conduct of the litigation. The establishment of a system of classification of the evidence and the analysis of each item in terms of such classifications are as essential for efficient evidence management without such a system as with one. Although the use of a machine will probably require more thorough classification, such added effort will contribute to better preparation and to greater likelihood of success."

Some advantages of the system: 1) elimination of paper shuffling among both professional and clerical personnel; 2) permanent availability of every item of evidence; 3) information by categories; 4) speedy availability of information; 5) a continuity of control over the facts regardless of shift of personnel; 6) reduction in volume and expense of copying; 7) elimination of overlapping files.

A SUCCESSFUL VENTURE IN COMPUTER SHARING

MANAGEMENT AND BUSINESS AUTOMATION, May 1960; pages 30-35

SPAN has been declared a "complete success" by its president, Ragnar E. Anderson. Future plans call for using the power of the computer to assist the management of the three cooperating insurance companies. "SPAN management, firmly backed by top management of the member companies, is willing to give almost any practical idea a run for its money. Programmers are constantly poking into new areas."

COMPUTER PROGRAMMERS ARE WHERE YOU FIND THEM

Ragnar E. Anderson, SPAN, Hartford, Conn.

DATA PROCESSING (U.S.A.), April-May, 1960; pages 15, 16

When the original four insurance companies which established SPAN were ready to look for their computing center staff, they issued a general call throughout their companies for applicants. Nearly 300 responded, from every area of company activity. The companies realized that their own people could do the best job, since SPAN's success depended upon standardized insurance procedures.

The applicants were tested primarily for their "concentration ability." One of the results of the SPAN method of personnel selection and training was the high esprit de corps and loyalty to the Computer Service organization. Reasons for the success of the recruiting program are stated as follows:

1. The process of selection was important. Personnel knew they were not competing with outsiders, but with their co-workers.
2. They knew they were getting in on the ground-floor.
3. They had the feeling of embarking on a new adventure--yet one that employed the language and customs with which they were familiar.

AUTOMATION FOR THE SMALLER BANK

BANKING, June 1960; page 62

Competitive banks in three towns in Michigan have formed a computing service organization. They are the Commercial and Savings Bank of St. Clair, the Marine Savings Bank of Marine City, and the Algonac Savings Bank. The center is located in Marine City. In choosing the location, the banks looked at local traffic conditions, transportation facilities, and the availability of messenger service. The center is set up along the lines of a mutual cooperative. The individual banks own the equipment and lease it to the service corporation. They also retain control of the organization, but the operating staff is recruited from outside. Each bank pays a service charge based on a per item cost of the work performed for it.

FIRST NATIONAL BANKING AUTOMATION CONFERENCE

COMPUTING NEWS, May 15, 1960; pages 9-11

In a short summary of the Banking Conference sponsored by the Detroit Research Institute, the cooperative banking service center in Marine City, Michigan, is described ((see article above)). Burroughs

Electronic Bookkeeping Machines were chosen for the three cooperating banks to be compatible with a later changeover to a Burroughs Visible Record Computer. A straight numeric numbering system was chosen, with a distinctive code number for each of the three banks. In addition, the ledgers are kept separately. A different telephone color was assigned to each bank, and an unlisted number obtained for each. Employees of the central unit give information only over the appropriate phone. No one in other banks or at the center know the unlisted numbers. In this way, it is assured that information will go only to the authorized people.

The three banks hope other banks will join the cooperative soon to give sufficient volume to warrant going to the VRC system.

MAKING AUTOMATION A REALITY

John W. Hulton, First Pennsylvania Banking and Trust Co.
BURROUGHS CLEARING HOUSE, May 1960; pages 35-37, 88, 92, 94

The approach to EDP which the First Pennsylvania took was to organize six teams to do all the research and planning for each specific program for the computer. Each team consists of a systems analyst or senior programmer, and a group of two or three programmers. One person from each team is a member of a standards committee which standardizes systems and methods of flow charting, communications, and programming patterns. This group also prepares standards for the operating manuals written by the teams.

An electronics data processing committee, consisting of top operations people and group systems leaders, meets every two weeks to review EDP progress. The group is at a level that can make decisions.

THE AUDITOR AND EDP

Arthur B. Toan, Jr., Price Waterhouse & Co., New York
JOURNAL OF ACCOUNTANCY, June 1960; pages 42-46

Some ways in which the auditor may adapt his job to the computing system are suggested.

1. The auditor should "resist the temptation of assuming that if the input to the machine system is adequately reviewed and controlled and the output can be checked back to source documents, he can then be unconcerned with what went on within the machine system itself."
2. The auditor can make use of the O. R. idea of the model to test out procedures.

3. Auditing by exception could result from careful planning of machine standards and the statement of auditing criteria in some quantitative form.
4. Internal control over the data fed into the EDP system would extend to every department which originates information which enters the system.

*Auditors:
do not over-control*

Auditors are warned, however, not to overcontrol. EDP systems have internal controls built into the equipment which eliminate much of the auditor's traditional checking. Efforts should be diverted toward those areas in which human actions play an important part. Other opportunities for auditors to make use of the possibilities of EDP are:

1. Use the EDP system to select items for test under a statistical sampling plan.
2. Learn to live with fewer detailed registers of transactions and the audit trails they provide.
3. Learn to time audit work so it will be available when the information is available and not make it essential for great quantities of data to be held for the auditor's use.

Finally, there are special auditors (sales tax, Federal and state income tax, wage and hour examiners, etc.) who need to examine a company's records. "EDP is definitely tending toward an emphasis on the controlled processing of data with less in the way of detailed records and extensive cross-references. Unless some way can be found to satisfy the needs of special purpose auditors, limitations of some importance may result. What is needed, it would seem, is the development of some method by which the specialized auditors may rely to a greater extent on the work of the independent CPA and some technique by which they may coordinate their work and programs with him so as not to impede progress or otherwise negate the development of effective economical clerical procedures."

COMPUTER OPERATION BY A CPA FIRM

Gerald R. Broucek, Ring, Mahoney & Arner, Ft. Lauderdale, Florida
JOURNAL OF ACCOUNTANCY, June 1960; pages 47-50

The author's accounting firm acquired an LGP-30 to establish a computer service center for its clients. The operation is conducted as part of the firm's management services department. Advantages of the computer are: greater error control in the processing of an account, versatility of financial statement format, and more effective management information included in financial reports to clients.

AUTOMATION FOR THE SMALL BUSINESS

Bryce F. Ells, Haskins & Sells, San Francisco
OFFICE EXECUTIVE, June 1960; pages 21-24

Large businesses are leading in automation because their larger volume of transactions makes their problems more acute and justifies greater expenditure in solving the problems. Greater emphasis on integration and use of the smaller types of equipment available are ways in which small businesses may improve their procedures without having to use a large computer.

NATIONAL SURVEY OF COMPUTER DEPARTMENT SALARIES

MANAGEMENT AND BUSINESS AUTOMATION, June 1960; pages 20-25, 52

This publication engaged Philip H. Weber and Co. to make a survey of thirty-five different computer department positions, covering salary, responsibilities, and job content. Seven thousand employees in 489 companies ranging over 33 industrial categories were questioned. They were located in 78 cities in 22 states. In order to standardize job descriptions in a field well known for its fluctuating nomenclature, the surveying organization divided computer and auxiliary departments into six general groups: control, analysis and procedures, programing, computer operations, auxiliary equipment, and E. A. M. equipment. Job classifications and titles were given for each group, and participants were requested to match their jobs to the proper classification regardless of their job titles. Proof of the necessity for this standardization is the forty different titles which were used by participants to identify the position of Manager of Computer Operations.

Job salaries are presented in a series of tables. Each job is tabulated for the established minimum and maximum salary range and the actual salary presently paid, summarized as to the lowest and highest figure recorded, and the median, average, and first and third quartiles. Six job levels for each of the six general groups are charted in this manner. As an example of the salary ranges, the average weekly salary for each of six programing jobs, ranging from supervisor to programmer C is: \$179, \$168, \$140, \$118, \$113, and \$106. The complete job descriptions as given the participants are included in the article.

DO YOU TALK "COMPUTERESE"?

This is a small glossary published by Honeywell. The entries deal with programing and computer hardware terms. A copy may be obtained from any Honeywell representative or from Minneapolis-Honeywell Regulator Co., Industrial Division, Philadelphia 44, Penn.

A NEW LOOK AT ADP SYSTEMS—GOVERNMENT-WIDE

*John A. Beckett, Assistant Director of the Bureau of the Budget
Address to Federal Government Accountants Association*

The Federal Government is maintaining a continuing study of automatic data processing through the Interagency Committee on Automatic Data Processing chaired by the Bureau of the Budget. The committee's efforts have been on such subjects as: a) rental versus purchase of ADP equipment; b) interagency sharing of equipment; c) determining the costs of ADP applications; d) a government-wide information exchange; e) guidelines for studies to precede the acquisition of ADP equipment; f) a government-wide program for ADP orientation and training.

The possibility of interagency integration of systems is suggested. For example, the Veterans Administration has arranged with the Treasury Department and Post Office Department to use the VA's magnetic tape for benefit payments for check writing and for pre-sort of the checks by locations. Other examples of collaboration include the Treasury Department and the General Accounting Office in reconciling of Government checks.

Some of the problems to be solved in utilizing ADP efficiently in the government are: centralization vs decentralization; equipment compatibility; continuous operation of equipment; assessment of progress; and balance of use among the computer utilization possibilities.

COMPUTER ABSTRACTS ON CARDS

Cambridge Communications Corporation maintains a cumulative, multiple-entry index to literature on electronic computers, printed on 3" x 5" cards. Subject matter covers equipment, programs, and mathematics. For information, write to: Cambridge Communications Corporation, 238 Main Street, Cambridge 42, Mass.

Management Sciences

COMPUTER RUNS SAVINGS OPERATION

AUDITGRAM, June 1960; pages 4-7

NABAC Research Institute has applied the Monte Carlo method to savings bank operations. "To create a typical day's operation in the hypothetical bank... a series of cards were punched, each of which represented a customer with a particular transaction. The cards were fed into the card reader and puncher, which, in turn, furnished the computer with the transaction. The use of the Monte Carlo method... determined the customer arrival time in the bank. Computer operators, or the 'bank management,' could, at will, open or close teller windows, with resulting build-ups of waiting lines or speed-ups of service.

"At the end of the bank 'day,' customer cards are fed into an adjacent printer and the 'bank management' is given a summary of the efficiency of their operation for that 'day.' Such information as the following is summarized, by the hour and in total: Activity of bank by hour, number of 5-minute periods that had queues, largest queue in each hour, average number of people in queue, maximum wait times of people in seconds, average waiting time in seconds, idle time in seconds, number of people who left without service, and percent utilization of open windows."

Future expansion of the process will include a comprehensive study of the effect of changing a series of factors in a hypothetical bank-- from one system to another, changing volume or changing the distribution of transactions by type. The technique is expected to be applicable to scheduling items through bank proof and transit departments, commercial or demand deposit teller operations, and in determining the impact of combining commercial and savings teller operations, among other banking operations.

System Design

SYSTEM MANAGEMENT SYSTEM & ELECTRONICS

Alan O. Mann, The Philco Corporation

JOURNAL OF MACHINE ACCOUNTING, June 1960; pages 10-17

The government has outthought business in the realization that computer capacities are of greater importance than computer faculties. This is evident in the government's concept of complex management problems. The plural "systems" has been replaced by the singular "system." "In other words, the larger and more complex the number of elements and interrelationships, the more certainly do we know that we're dealing with a true system--with a concept rather than a percept--an abstraction that must be formulated in the mind because it is too large and complex to perceive through the basic senses. Thus, in general, it is becoming increasingly true that our individual business organizations are growing beyond the limits of the perception, into new combinatorial realms of size, speed and power which only concept can successfully encompass. This means that in any organization of appreciable size today, it is dangerous to handle any of our problems through the medium of percept rather than concept. The old technique of handling large problems piecemeal--a bit at a time--as a means of holding our level of work down to only that which we can readily perceive, is going by the board. For increasingly, that which we do for the improvement of a piece or part, is being done with increasing likelihood that it will result in some greater damage to the whole."

New developments and thought patterns are required for the new system effort. The expanding aspects of the system task are:

1. Increasing categories of technical specialists doing work in the system category.
2. Tendency toward team efforts, and the formation of task forces within single organizations or between two or more organizations.
3. Problems coincident to the other two aspects have not yet been clearly resolved.

Emphasis will be on the scientific elements of the task, including operations research, simulation, and scientific analysis. These new directions indicate a new profession, that of "System Manager." This new person would be "expected to design and build, or have built, equipment needed--to engineer facilities and personnel into an organized unity and then to direct the maintenance and operation of the whole with optimum effectiveness in every regard--timing, costs, quality, morale, etc.... Gradually, the successful System Managers will move over into business as the chief executive officers of business firms.... The entire

firm will be considered and treated as a single system, an important part of which will be its electronic equipment system that will make it function as a true system rather than a somewhat disordered, non-integrated conglomeration of divisions."

AN ADVANCED ANALYSIS METHOD FOR INTEGRATED ELECTRONIC DATA PROCESSING

Orren Y. Evans, Hunt Foods and Industries, Inc., Fullerton, Calif.
DATAMATION, May-June 1960; page 21

A new method is given for uniform, orderly, and integrated analyzing and documentation of data in systems work. It provides flexibility for changes, and eliminates the need for logic and detail flow charts. ((See DPD, April 1960, page 19: "The Evans Table--A Procedure-Oriented Language"))

Applications

COMPUTER CONTROLS MO-PAC INVENTORY

MODERN RAILROADS, June 1960; pages 67-69

Missouri Pacific Railroad is using an IBM 305 Ramic to operate an integrated system of inventory control and stores accounting. Regular output of management reports include:

1. Monthly report for Purchasing and Stores Accounting which gives dollar value of materials and supplies on hand, by class, at each location, available after transactions for the last day of the month are completed.
2. A daily report for the Accounting Department which gives separate information for each location and a register for transfer between MoPac's twelve stores where from \$50,000 to \$2,250,000 worth of materials and supplies are kept. Also, a monthly report after all transactions for the month have been processed.
3. Three times a month, a report is prepared for the mechanical Department, stating the amount of material charged to each account at each location. These reports aid the Chief Mechanical Officer in controlling maintenance of equipment appropriation.

4. Quarterly report to the Traffic Department to indicate the dollar value of purchases from each vendor.

Eventually the Ramac will initiate transfers of material from one location to another; and process interline information.

PAPERWORK CONTROL

AUTOMATIC CONTROL, June 1960; page 38

PRODUCTION DATA SYSTEM IMPROVES MANAGEMENT CONTROL

AUTOMATION, June 1960; pages 80, 81

Norair Division of Northrop Corp. has established a production control system using 97 Collectadata transmitters located throughout the plant's 27 manufacturing shops. Production orders are on edge-punched cards containing a serial number. When information affecting the order (such as receipt of materials) is to be recorded, the master order is placed in a transmitting unit and the information is entered on the transmitter's dials. The transmitters are connected by telephone cables to 20 receiving units. The punched tapes created by the receiving units are forwarded to the computer center. The data is processed during the night on the company's IBM 704, used during the day for scientific data processing.

UNUSUAL APPROACH TO SAVINGS-LOAN ACCOUNTING

*Alfred L. Deutsch, American Savings and Loan Association, Detroit
BURROUGHS CLEARING HOUSE, June 1960; pages 44, 45, 104, 105*

The tellers' window posting machines are cable-connected to a tape punch, which makes an 8-channel paper tape of the transactions. The odd parity check in the 8-channel tape used to prove the accuracy of the transmission and the original punching operation. The tapes are collected from the tellers periodically and introduced into a transmitter which converts the information into FM frequencies for transmission over an ordinary telephone line to the information center. At the center a paper tape is created from the received information, and the tape is converted to cards for processing in a computer. All of the day's work is received by 5:30 PM and processed by the following morning. Transmission during the first year of operation was found to be nearly error-free. In a one-month check, there were only eight errors, detected at the time of transmission, in the sending of one and a quarter million characters.

ELECTRONIC DATA PROCESSING AND SUBSCRIPTION FULFILLMENT

J. M. Arnstein, Esquire, Inc.

DATA PROCESSING (U.S.A.), April-May 1960; pages 25-27

Esquire has put its subscription list of more than three million names on magnetic tape in order to facilitate promotional mailings to expire without disrupting the subscription-filling order. In addition, by running the master list through the computer, the subscription department can get an exact count of upcoming expirations, providing data for more accurate planning of print orders for promotion materials. It is suggested that smaller publishers might pool their fulfillment operations in order to take advantage of a computer's ability to handle subscription fulfillment and promotional mailings more economically.

AUTOMATION SERVES CUSTOMER AT GRANT'S

OFFICE MANAGEMENT AND AMERICAN BUSINESS, June 1960; pages 40, 41

W. T. Grant chain stores are using point-of-sale tape-punching cash registers developed by Monroe Calculating Machine Co. to create by-product tapes for use with the Monroe "Distributape" data analyzers. Sales and inventory control data are processed overnight to assist store managers to keep items replenished within their allowed budgets.

Programing

LOGIC BY MACHINE: PROGRAMMING THE LGP-30 TO SOLVE PROBLEMS IN SYMBOLIC LOGIC

Paul W. Hagensick, Ohio University

BEHAVIORAL SCIENCE, January 1960; pages 87-98

A program has been written which enables a computer to solve problems in symbolic logic. It is believed that the program can be enlarged to include some of the functional calculi. Within propositional logic, the program is capable of accepting any complex expression in which any number of propositional abbreviations are associated with the connecting terms "and," "or," "if... then," "if, and only if," or "not."

PROGRAMMED APPLICATIONS LIBRARY

DATA PROCESSOR, June-July 1960; page 1

The IBM Programmed Applications Library is a new service which provides for IBM customers pre-tested computer programs, designed to handle various major data processing functions common to firms within a specific industry. The first programs available will be a public-utility customer billing and accounting program for the IBM 7070, and a hospital accounting program for the IBM Ramac 305.

Equipment

U.S. GETS FOREIGN TECHNICAL LANGUAGE TRANSLATOR

PRODUCT ENGINEERING, May 23, 1960; pages 17, 20

IBM has developed for the Air Force an electronic translator which is expected to translate about 2400 Russian words per minute by the end of 1960. A transparent disk 10 inches in diameter is the dictionary which stores about 55,000 paired Russian and English words. The words are recorded as clear and black areas on the disk, and are read by a cathode-ray-tube scanner. Both input and output is by punched paper tape on a Flexowriter.

If a Russian word input must be transliterated into Roman characters, the direct transfer from the input register is blocked and control circuits guide the system to the transliteration circuitry. When a Russian word cannot be found in the dictionary, it is transliterated. In cases of transliteration, the output is printed in red, and these words are added to the next edition of the dictionary.

NEW CATHODE TUBES PRINT ON PAPER

MANAGEMENT AND BUSINESS AUTOMATION, April 1960; page 45

"Printapix" is a new cathode ray tube developed by Litton Industries for direct electronic printing at high speeds on ordinary paper.

Comment

SYSTEMS ENGINEERING—A NEW PROFESSION

Burton Grad, IBM Corporation, White Plains, New York

Those of us in the information processing field have, in the past 10 years, gone through a period of remarkable change. From a relatively small, often poorly regarded, group of ex-accountants with titles like procedures analyst, tab room supervisor, etc., we've become a set of highly professional programmers, systems analysts and data processing managers. The scientific and engineering personnel who stimulated much of this advance have now been joined by professional business trained specialists in various functional areas: manufacturing, accounting, etc.

But as is almost a cliché today most of us have been disappointed in the lack of ability to apply information processing equipment to various business planning and operating activities on a profitable basis. We seem to be dammed by the shortsightedness of those who insist either explicitly or through budgetary and time control that we should simply automate today's techniques. Here are a few examples of the superficially plausible reasoning that's employed.

1. Let's leave well enough alone.
2. You can't automate a mess.
3. You've got to crawl before you walk.
4. Let's do this on an integrated, piece meal basis.
5. People have to gradually get used to new ideas.
6. How do we know it'll work?
7. Will it really save money?

All of these hackneyed expressions miss the point entirely. Effective automation demands that the task be restructured, re-orientated toward the kind of equipment available for use. Virtually all business procedures have been built to enable men and women to perform them in as efficient a manner as possible. This has led to breaking down a task into a series of handleable sub-tasks; it has resulted in extensive files to record the results of previous analysis and decision making; it has expressed itself in a certain tempo of operation; it is seen in the creation of intermediate documents, the lack of formal decision rules, the avoidance of complex mathematical procedures.

Around the turn of the century a group of people interested in scientific management promulgated many principles for designing systems for human operation. This work resulted in methods study, time standards, cost accounting, blueprints and bills of materials, plant layout, cycle charts, and most of the trappings of "modern" industrial engineering. The techniques developed were designed to make complex human operated systems more efficient - and they worked!

*Improvement must embrace
the whole system*

But times have changed, with a vengeance. We now need to develop the concepts, principles and techniques which underly the design of automatically operated systems. To give meaning to this change many writers have started using the term systems engineering to denote this new management science. Systems engineering differs from industrial engineering in its orientation, in its tools, in its goals and even in its scope.

The systems engineer is distinguished by his taking the systems approach to solving business problems. He reconceives the system's requirements and the logic of its operation. He organizes work on a task rather than a job assignment basis. He tries to integrate physical operations with information processing and decision control. He uses certain mathematical and operations research tools. He measures success in terms of total business goals like customer satisfaction, employment stability, equipment utilization. He considers the whole business as his bailiwick, as his responsibility, from a systems planning standpoint. He seeks dramatic improvement, not minor changes.

Educationally the systems engineer may be an accountant, engineer, economist, mathematician, or what have you. It is his attitude and the consequent results that differentiate his efforts from the industrial engineer.

Practically, most systems engineers work for fairly large companies since they are the ones who have pioneered the field of automation. They are more apt to be in an aggressive manufacturing company than in bank (though the ABA acceptance of magnetic character sensing was a major step forward). These systems engineers are disturbed by the lack of tools and techniques, which they need for systems documentation, analysis and design. They often feel like professional lost sheep since their interests are not limited to any particular type of business or function within a business.

Nevertheless, and in spite of their frequent misgivings and self-doubt, collectively these men are building a foundation for a profession. They are establishing the success stories on which a stable, significant structure can be erected. Some of the work being done today will be quoted in the text books of tomorrow just as Taylor's study on optimum shovel size and shape are still quoted in current industrial engineering texts. This new profession is that of Systems Engineering.

REFERENCE - (A book worth owning) Goode and Machol, "Systems Engineering", McGraw Hill - 1958.

EDP IDEA FINDER NOW AVAILABLE

The new one-volume compact EDP IDEA FINDER, published by Canning, Sisson and Associates, is now ready for DPD subscribers and their colleagues. The EDP IDEA FINDER is based upon the most significant articles from DATA PROCESSING DIGEST, published during the important years of 1957, 1958, and 1959. These articles are divided functionally into interest areas such as The Role of EDP in Management, Design of the EDP System, Physical Installation, Management Sciences, and many others. Every article is organized for immediate accessibility, indexed by author's name, article title, subject, and important words. For a limited time, DPD subscribers may receive a free one-year extension of their regular subscription with their purchase of the EDP IDEA FINDER at the regular published price of \$69.00. For information, write to Canning, Sisson and Associates, Inc., 1140 South Robertson Blvd., Los Angeles 35, California.

Training

EDP Installations in Operation--A Conducted Tour of Practical Applications, sponsored by San Diego State College

Date: August 8-20, 1960
Place: Tour starts at San Diego State College and includes Los Angeles, and vicinity, San Francisco, and vicinity, with sightseeing stops at Sequoia and Yosemite.
Content: Visits to large and small computer installations and computer manufacturers. Persons without automation background can benefit, as well as those who are familiar with the subject.
Fee: \$135 plus meals (including bus fare and accommodations)
Course requirements: Credit for Upper or Graduate Division Status. For audit: college matriculation and consent of instructors
Registration: Dr. E. Dana Gibson, Professor, Office Management, San Diego State College, San Diego 15, California

American Management Association Seminars--Office Management Section

Date: August 15-19--"Data Processing Function"
"Information & Reporting Systems"
August 29-31--"Data Processing Evaluation"
And others in the systems and procedures field
Information: American Management Association, Seminar Registration, 1515 Broadway, New York 36, New York

A Development Program in O. R., sponsored by Case Institute of Technology

Date: September 20, 1960 to January 27, 1961
Place: Case Institute of Technology, Cleveland, Ohio
Information: Dr. E. Leonard Arnoff, Asst. Dir., Operations Research Group, Dept. of Mgmt., Case Institute of Technology, University Circle, Cleveland 6, Ohio

Information Storage and Retrieval, two-week course sponsored by University Extension, UCLA

Date: September 26--October 7, 1960
Place: University of California, Los Angeles, California
Prerequisite: Bachelor's degree with evidence of interest in field. Two units of professional credit.
Fee: \$175.00
Information: H. L. Tallman, Physical Sciences Extension, Room 6501 Engineering Building II, University of California, Los Angeles 24, California

Professional Systems Course, sponsored by Ross-Martin Company, a 50-week course for training systems personnel. Enrollment deadline is November 1, 1960; limit of 30 members for a seminar. Course fee: \$250. For information, write to: The Foundation for Administrative Research, Ross-Martin Company, Box 800, Tulsa 1, Oklahoma.

Programming the IBM 1401 Data Processing System, Course No. 102, a new home study course offered by Business Electronics Inc. For information about this and the other excellent courses offered by this firm, write to J. H. Herrett, Business Electronics Inc., 420 Market Street, San Francisco 11, California.

Meetings

Bendix G-15 Users' Exchange Organization Annual Conference

Date: August 10-12, 1960
Place: Pittsburgh, Pennsylvania (Pittsburgh Hilton)
Theme: "Strategic Programming"

National ACM Conference

Date: August 23-25, 1960
Place: Marquette University, Milwaukee, Wisconsin

Recomp Users Group (RUG)

Date: August 25-26, 1960
Place: Denver, Colorado

SHARE XV Meeting

Date: September 12-16, 1960
Place: Pittsburgh, Pa. (Pittsburgh Hilton Hotel)
Information: E. B. Weinberger, Gulf Research & Development Co., Drawer 2038, Pittsburgh 30, Pa.

Univac Users Association

Date: September 22, 23, 1960
Place: Washington, D. C.

Northwest Computing Conference, sponsored by Northwest Computing Association and the Oregon State Board of Higher Education

Date: September 30--October 1, 1960
Place: Portland, Oregon

CUE, Burroughs 220 Users' Group

Date: October 4-6, 1960
Place: Philadelphia, Pennsylvania

Electronic Computer Exhibition and Business Symposium

Date: October 4-12, 1960
Place: London, England (Olympia)
Information: Mr. D. C. Scoones, Peat, Marwick, Mitchell & Co.,
94-98 Petty France, London SW 1, England

NABAC National Convention

Date: October 10-12, 1960
Place: Los Angeles, California
Information: NABAC, The Association for Bank Audit, Control and
Operation, 38 South Dearborn St., Chicago 3, Illinois

International Systems Meeting, sponsored by Systems and Procedures Association

Date: October 10-12, 1960
Place: New York, N. Y. (Hotel Commodore)
Information: Systems and Procedures Association, 4463 Penobscot Bldg.,
Detroit 26, Michigan

National Meeting, Operations Research Society of America

Date: October 10-12, 1960
Place: Detroit, Michigan (Statler Hilton Hotel)
Information: Albert Wallaert, M.D., Grosse Pointe, Michigan

One-Day Technical Symposium, sponsored by Los Angeles and Orange County Chapters of A. C. M.

Date: October 19, 1960
Place: Anaheim, California (Disneyland Hotel)

The Institute of Management Sciences (TIMS) International Meeting

Date: October 20-22, 1960
Place: New York City (Hotel Roosevelt)
Subjects: Behavioral Science and Management Science, Applications
and Tools of Management Science, Use of Computers in
Simulation
Information: Mr. James Townsend, 30 East 42nd Street,
New York 17, New York

Computer Applications Symposium, sponsored by Armour Research Foundation

Date: October 26, 27, 1960
Place: Chicago, Illinois (Morrison Hotel)
Information: Andrew Ungar, Armour Research Foundation,
10 West 35th Street, Chicago 16, Illinois

Institute on Electronics in Management, sponsored by American University School of Government and Public Administration

Date: October 31--November 4, 1960
Place: The American University, Washington, D. C.
Theme: "Current Developments in Automatic Data Processing Systems"
Information: Dr. Lowell H. Hattery, The American University,
1901 F. Street, N. W., Washington 6, D. C.

Eastern Joint Computer Conference

Date: December 13-15, 1960
Place: New York City (Hotel New Yorker and the Manhattan Center)

TRANSISTOR COMPUTER INSTALLATION AND FIRE PREVENTION

A Supplement to "Cutting the Cost of Your EDP Installation" has been published by Canning, Sisson and Associates. The Supplement contains information on the installation requirements for transistor computers. Descriptions of seven installations include space requirements, air conditioning, equipment complement, and construction of the site. The Supplement also includes valuable and hitherto unpublished information about the Pentagon fire and new safety measures taken in the reconstruction of the site. The price of the Supplement is \$10 per copy. Purchase of the original Report, "Cutting the Cost of Your EDP Installation" at \$55 includes the Supplement at no additional cost. For information write to: Canning, Sisson and Associates, 1140 South Robertson Boulevard, Los Angeles 35, California.

References

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DATA PROCESSING DIGEST is published each month by Canning, Sisson and Associates, Inc., 1140 South Robertson Boulevard, Los Angeles 35, California. Subscription rate: \$24.00 per year. Foreign postage (exclusive of Canada and Mexico): \$2.50 additional. Single copies: \$3.00 when available. Executive Editors: Richard G. Canning and Roger L. Sisson. Managing Editor: Margaret Milligan